

Claims

1. An apparatus for mounting and/or dismounting hoses onto or from socket pieces or operations of such a type, comprising:
- a drive (2) producing a linear driving motion including a power supply unit and a control unit (3) for controlling the driving motion,
 - a feed member (39) adapted to be linearly driven by the drive (2),
 - pivotally supported inserted plier halves (24) the inner lever ends (27) of which facing away from a socket piece (52) are engaged by the feed member (39) in order to pivot the inserted plier halves (24) with their jaws (29) against a hose (50) disposed therebetween during a forward motion of the feed member (39),
 - a bearing part (23) supporting the inserted plier halves (24) and adapted to be displaced in the direction of the feed member including a stop (13^V, 13^{VI}), and
 - a counterstop (15) connected to the feed member (39) which, after a phase of the forward motion of the feed member (39) required to clamp the hose (50) in place between the jaws (29), hits upon the stop (13^V, 13^{VI}) while carrying along the bearing part (23) through the remaining phase of the forward motion in order to advance the inserted plier halves (24) and to push the hose (50) clamped therein onto or from a socket piece (52).
2. The apparatus according to claim 1, including an end support (34) for being stayed on a socket piece (52) and/or a structure carrying the socket piece (52) and/or a structure having a stable position with respect to the socket piece (52) and for absorbing the reaction forces produced by pushing the hose (50) onto and/or from the socket piece (52).

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3. The apparatus according to claim 1 ~~or 2~~ wherein the drive (2) has at least one driving piston (41, 55) which is connected to a pressurized-medium connection via a pressurized-medium valve.
4. The apparatus according to claim 3 wherein the drive has a spring mechanism (42, 59) for moving back the driving pistons (41, 55) in case of pressure relief.
5. The apparatus according to ~~any one of claims~~ 1 to 4 wherein there is another spring mechanism between the inserted plier halves (24) for pivoting the inserted plier halves (24) away from each other.
6. The apparatus according to ~~any one of claims~~ 1 to 5 wherein the forward motion of the feed member (39) is directed away from the drive (2).
7. The apparatus according to claim 6 wherein the inserted plier halves (24) with their jaws (19) are disposed between the drive (2) and the end support (34').
8. The apparatus according to ~~any one of claims~~ 1 to 5 wherein the forward motion of the feed member (39) is directed towards the drive (2).
9. The apparatus according to claim 8 wherein the end support (34') is disposed between the drive (2) and the jaws (29) of the inserted plier halves (24).
10. The apparatus according to ~~any one of claims~~ 1 to 9 wherein the feed member (39) has chamfers (39) which interact with the inner lever ends (27).

11. The apparatus according to ~~any one of claims 1 to 10~~ wherein the inner lever ends carry rotatably supported rollers (27) the circumference of which is engaged by the feed member (39).
12. The apparatus according to ~~any one of claims 1 to 11~~ wherein the inserted plier halves (24) each are substantially of a Z shape, each of them being pivotally disposed, with a first outer leg (25), in a plane containing the axis of motion of the feed member (39) and, with a second outer leg (29) forming one jaw, are disposed in a second plane parallel with the first one.
13. The apparatus according to ~~any one of claims 1 to 12~~ wherein the jaws (29) of the inserted plier halves (24) each form a partially cylindrical receptacle (30) for a portion of the hose (50).
14. The apparatus according to claim 13 wherein the receptacles (30) of the jaws (29) have an undersize with regard to the cross-section of the hose (50) to be accommodated and/or with respect to a nozzle (51) at the end of the hose (50).
15. The apparatus according to claim 13 ~~or 14~~ wherein the jaws (29) have locking surfaces (30) for clamping the hose (50) in place, which are rigid in a portion (31) which is farther way from the end support (34) and are elastic in a portion (32) which is closer to the end support (34) for pushing a clamped hose (50) over and onto a hose nozzle (52).
16. The apparatus according to claim 15 wherein the rigid portion (32) of the locking surfaces (30), along with the inserted plier halves (24), is integrally formed from rigid material and/or the elastic portion (52) of the locking

surfaces (30) is formed from an elastic material introduced into the inserted plier halves (24).

17. The apparatus according to claim 16 wherein the elastic portion (52) of the locking surfaces (30) is formed by sleeve segments introduced into the jaws (29).
18. The apparatus according to ~~any one of claims 1 to 17~~ wherein the jaws on the locking surfaces (30) have a structure and/or roughened surface that enhance friction.
19. The apparatus according to ~~any one of claims 1 to 18~~ wherein the bearing part (23) has two parallel-arranged slide blocks (13) which are guided in slide-block guides (10) and are interconnected by bolts (14, 15) on which the inserted plier halves (24) are supported between the slide blocks (13).
20. The apparatus according to claim 19 wherein the slide blocks (13) are of a panel shape.
21. The apparatus according to ~~any one of claims 1 to 18~~ wherein the stop (13^V, 13^{VI}) is formed by the end of at least one elongated hole (13^V, 13^{VI}) of the bearing part (23) which is directed towards the axis of motion of the feed member (39) and the counterstop is formed by a dog pin (15) which is disposed transversely to the axis of motion in the feed member and traverses the elongated hole.
22. The apparatus according to ~~any one of claims 1 to 21~~ wherein the bearing part (23) is associated with a detent (19 to 22) which after the hose (50) is clamped

in place between the jaws (29) is releasable by a further advance of the feed member (39).

23. The apparatus according to claim 22 wherein the detent (19 to 22) has at least one arresting body (22) which, when in an arresting position, partly engages an receptacle (21) of the bearing part (23) and partly engages a counter-receptacle (20) and, when in a release position, only continues to engage the counter-receptacle (20).
24. The apparatus according to claim 23 wherein the arresting body is a cylindrical arresting pin (22) which when arrested, by a partial cross-section engages a partially cylindrical receptacle (21) of the bearing part (23) and by a partial cross-section engages a groove (20) as a counter-receptacle which is capable of accommodating the full cross-section of the arresting pin (22).
25. The apparatus according to claim 23 ~~or 24~~ wherein the arresting body (22) is forced by a spring (19) into the arresting position.
26. The apparatus according to ~~any one of claims 23 to 25~~ wherein the spring is a spiral spring (19).
27. The apparatus according to ~~any one of claims 23 to 26~~ wherein the arresting body (22) is adapted to be moved out of its receptacle (21) in the bearing part (23) by means of a release (16) of the feed member (39)
28. The apparatus according to claim 27 wherein the release (16) has at least one surface (17) inclined obliquely to the forward feed axis for moving an arresting

body (22) into the counter-receptacle (20) from its receptacle (21) in the bearing part (23).

29. The apparatus according to ~~any one of claims 1 to 28~~ wherein the arresting body (22) is disposed on either side of the feed axis.
30. The apparatus according to ~~any one of claims 23 to 29~~ wherein the two slide blocks (13) are associated with arresting bodies (22).
31. The apparatus according to ~~any one of claims 1 to 30~~ wherein the end support (34) has a bent-away fork head, a panel with a laterally opened receptacle (38) or the like for gripping behind a lug (53).
32. The apparatus according to ~~any one of claims 1 to 31~~ which has a casing (6) comprising the drive (2).
33. The apparatus according to ~~any one of claims 1 to 32~~ which has a tool head (1) carrying the inserted plier halves (24) on a casing (6).
34. The apparatus according to ~~any one of claims 1 to 33~~ wherein the end support (34) is fixed to the tool head (1) and/or the casing (6).
35. The apparatus according to ~~any one of claims 1 to 34~~ which has a control section including the control unit (3) and/or the power supply unit.
36. The apparatus according to ~~any one of claims 1 to 35~~ which is designed as a hand-held instrument.